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Address: Drs S. D. Ripley and B. M. Beehler, NHB Room 336, Smithsonian Institution, Washington, DC 20560, USA.

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## Non-conspecificity of *Cossypha insulana* Grote and *Cossypha bocagei* Finsch & Hartlaub, with the description of a new subspecies of *Cossypha bocagei* from western Tanzania

by Alexandre Prigogine

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Moreau & Benson (1956) arrived at the conclusion, based on characters, plumage and dimensions, that the robin-chats *Cossypha insulana* Grote and *C. bocagei* Finsch & Hartlaub are conspecific. This opinion has been accepted by most taxonomists, in particular by Chapin (*in* Moreau & Benson), White (1962), Hall & Moreau (1970) and Morony, Bock & Farrand (1975). Wolters (1980) however considers these birds belong to 2 distinct species of the genus *Sheppardia*. More recently, Wolters (1983) proposed a new genus for them, *Prosheppardia*, characterized by a white patch (often concealed) on the lore or a reduced superciliary stripe. *C. insulana* has a relatively large bill and the two species, *bocagei* and *insulana*, have relatively strong legs. The tail is short in *insulana*, as in *Orocossypha*, another new genus proposed by Wolters (1983).

Starting from the north, nominate *C. insulana* Grote (1935) is limited to Fernando Po. If, in conformity with Wolters (1983), the genus *Sheppardia* is used, *Sheppardia poensis* Alexander, 1903, is valid. The Cameroon montane forest is inhabited by *granti* Serle (1949); *schoutedeni* Prigogine (1952) was described from the region of Lutunguru, but another population of the same race was found later in the Itombwe Highland (Prigogine 1971) and there exists a specimen collected on the western slope of Ruwenzori (IRSNB); the form *kaboboensis* lives on Mt. Kabobo (Prigogine 1955); *kungwensis* Moreau (1941) exists on Kungwe-Mahari.

Nominate *bocagei* was described from Angola (Finsch & Hartlaub 1870). Benson (1955) separated the race *chapini* for northern Zambia, while Prigogine (1969) limited *hallae* to southern Zaïre.

Hall & Moreau (1970) mapped together "short-tailed" and "long-tailed" *Cossypha bocagei*. The locality indicated (map 152) just south of

Kungwe-Mahari, for a short-tailed *Cossypha bocagei* is an error. Yet, they mentioned that *bocagei* (*sensu stricto*) has a long tail but not a stout bill, while *insulana* (*sensu stricto*) in comparison has a shorter tail, longer legs and various amounts of olivaceous wash in the grey of the head (strongest in *granti* and *kungwensis*).

Recent collections in Fernando Po and Cameroon, especially by Eisentraut (1968, 1973) and Jensen & Stuart (1986) furnished supplementary specimens of *insulana* and *granti*. Moreover, a series of *schoutedeni* has been collected in the last few years in the region of Maboya, south of Beni, and in the western part of the Itombwe Highland (Prigogine 1971). For this reason, it has appeared useful to check if the statement by Moreau & Benson (1956), considering *insulana* as conspecific with *bocagei*, is still valid. Difficulty results from the fact that the various populations of the 2 groups are allopatric. Consequently, the appreciation of the morphological differences is a matter of opinion.

### Differences between the *bocagei* and *insulana* groups

The two groups, *bocagei* and *insulana*, differ as follows:

The *bocagei* group has a brown rufous lower eye-lid, while *insulana* can be distinguished, for adults of all populations, by the presence of a black lower eye-lid. The immatures of *insulana* have a light greyish lower eye-lid, recognisable in a *schoutedeni* specimen from Kiliza (IRSNB AP1392), still heavily spotted on the crown, and in a first-year specimen from Maboya (MRAC 118962). The black colour appears with age. The *insulana* group has a black upper eye-lid, except for immatures which have a greyish upper eye-lid. The *bocagei* populations are characterized by a dark grey upper eye-lid.

For all subspecies belonging to the *bocagei* group (n nominate *bocagei*, *chapini*, *hallae*) the head is grey in sharp contrast with the green olivaceous mantle. On the other hand, the head colour of the different races of the *insulana* group is essentially variable: *granti* has an olivaceous head, with only a greyish wash; nominate *insulana* and *kungwensis* have an olive greyish head; *schoutedeni* has a dull grey blackish head, slightly tinted with olive; while *kaboboensis* has a blackish grey head. The change in colour between the head and mantle is very gradual for *insulana*, *granti* and *kungwensis*, but there is more contrast apparent in *schoutedeni* and it is quite marked in *kaboboensis*.

There is also a difference in the colouration of the underparts: in the *bocagei* group the underside is dull rufous-brown, with relatively little white in the centre of the belly; in the *insulana* group the underparts are brighter, with more white on the centre of the belly.

Table 1 gives mensural data for adults of the various populations, providing the following conclusions:

1. The *insulana* group has a shorter wing than the *bocagei* group.
2. The same is especially apparent for the tail length.
3. No differences are visible for the total culmen and the tarsus length.
4. On average, the tail/wing ratio is higher for the *bocagei* group.

TABLE 1

Measurements of adult *Cosypha insulana* and *bocagei* (mm)

MALES	Population	N	Wing		Tail		Tarsus		Total culmen <sup>1</sup>		100 T/W		100 T <sub>a</sub> /W		100 TC/W				
			m	M (av.)	s	m	M (av.)	s	m	M (av.)	s	m	M (av.)	s	m	M (av.)	s		
<i>C. insulana</i>																			
	<i>insulana</i> <sup>2</sup>	3	70-74	(72.0)	1.42	47-50	(48.8)	27-27.5	(27.2)	15.5-17	(16.2)	65.3-70.0	(67.8)	36.5-38.6	(37.8)	21.6-23.6	(22.4)		
	<i>granti</i>	8	69-73	(71.0)	0.89	47-52	(49.3)	25-26.5	(25.8)	0.70	15-16	(15.8)	1.82	35.2-37.7	(36.5)	21.2-22.9	(22.3)		
	<i>schootedemi</i> <sup>3</sup>	6	69-71	(70.0)	0.89	46.5-52	(49.3)	25.5-28	(26.6)	0.92	14-16	(15.1)	0.66	37.4-40.6	(38.0)	1.76	19.7-22.9	(21.6)	
	<i>schootedemi</i> <sup>4</sup>	7	69-74	(70.1)	1.75	47.5-52	(49.9)	26.5-29	(27.6)	0.92	14-16	(15.3)	0.70	38.1-40.6	(39.3)	0.97	20.1-23.2	(21.8)	
	<i>kaboboensis</i>	3	71-78	(73.7)		54-57.5	(55.5)	27	(27.0)		16-17	(16.5)		34.6-38.0	(36.7)		22.2-23.9	(23.1)	
	<i>kinguensis</i>	4	74-77	(75.3)	1.26	53-55	(54.3)	0.96	28-29	(28.4)	0.48	16-17	(16.5)	1.25	37.3-38.0	(37.7)	0.29	21.3-22.7	(22.1)
<i>C. bocagei</i>																			
	<i>ballae</i> <sup>5</sup>	16	80-84.5	(82.4)	1.26	58.5-68	(63.8)	2.71	25-28	(27.1)	0.85	15-17	(15.8)	0.69	72.8-81.4	(77.5)	2.55	31.0-34.1	(32.9)
	<i>chapini</i> <sup>6</sup>	4	79-81	(80.3)	0.96	58-66	(61.3)	3.40	26-28	(27.1)	0.85	15-15.5	(15.4)	0.25	72.5-81.5	(76.3)	3.77	32.9-34.6	(33.8)
	<i>bocagei</i> <sup>7</sup>	7	79-82	(80.6)	1.27	62-69	(65.6)	2.78	27-30	(28.9)	1.21	15-17	(15.8)	0.94	78.5-84.6	(81.4)	2.34	33.8-37.2	(35.8)
	<i>iyati</i>	1	82			59		27			15.5	72.0		32.9		18.9			
FEMALES																			
<i>C. insulana</i>																			
	<i>insulana</i> <sup>2</sup>	4	66-68	(67.0)	0.82	42-46	(44.0)	1.83	25.5-27.5	(26.4)	0.85	15-16	(15.5)	0.58	63.6-68.7	(66.7)	2.30	38.1-41.0	(39.4)
	<i>granti</i>	6	64-68.5	(66.4)	1.63	42-47	(44.0)	1.70	24-25.5	(24.8)	0.68	15-15.5	(15.1)	0.20	64.2-70.1	(66.1)	2.06	35.8-38.1	(37.4)
	<i>schootedemi</i> <sup>3</sup>	6	64-68	(66.2)	1.60	44.5-52	(46.6)	2.73	25-27	(25.9)	0.85	15-16	(15.3)	0.52	67.6-76.5	(70.4)	3.20	37.5-40.9	(39.2)
	<i>schootedemi</i> <sup>4</sup>	8	63-68	(66.2)	1.65	45-48	(46.3)	1.04	25-27	(26.2)	0.98	14-16	(15.1)	0.73	67.2-73.8	(69.9)	2.32	37.3-40.9	(39.4)
	<i>kaboboensis</i>	4	66-70	(67.3)	1.89	47.5-50	(48.4)	1.11	26-27	(26.3)		15-16	(15.5)		70.9-72.7	(71.4)	0.92	38.6-39.4	(38.9)
	<i>kinguensis</i>	3	68-71	(70.0)		46.5-47	(46.9)		26-28	(27.2)		15.5-16		64.8-69.1	(66.7)		36.6-41.2	(38.8)	
<i>C. bocagei</i>																			
	<i>ballae</i> <sup>5</sup>	20	72-79	(75.1)	2.13	54-61	(56.8)	2.35	25-28	(26.4)	0.85	14.5-16	(15.4)	0.53	72.4-79.2	(75.8)	2.02	33.1-37.5	(35.2)
	<i>chapini</i> <sup>6</sup>	4	73-79	(75.2)	2.87	55.5-62	(58.0)	2.86	26-28	(27.0)		15-15.5	(15.4)	0.25	76.0-78.5	(77.1)	1.14	32.9-37.0	(35.0)
	<i>bocagei</i> <sup>7</sup>	4	76-77	(76.6)	0.48	59-60	(59.6)	0.48	27-28.5	(27.4)	0.75	15.5-16	(15.8)		76.6-78.9	(77.8)	1.04	35.1-37.5	(35.8)
	<i>iyati</i>	2	74.5-75			51-53		26.5			15	68.4-70.6		35.3-35.6		20.0-20.1			

<sup>1</sup> Culmen from skull. <sup>2</sup> Eisenraut (1973) gives the following measurements: 6 males wing 71.5-73 (mean 72.4), tail 49-53 (50.7); 4 females wing 66-68 (66.9), tail 44.5-46 (45.3). <sup>3</sup> Northern population. <sup>4</sup> Southern population. <sup>5</sup> For the wing length of adult specimens Verheyen (1953) gives the following lengths: 10 males 81-84 (82.6); 10 females 73-78 (75.0). He adds that specimens in first-year plumage have shorter wings: 7 males 75-82 (79.0). <sup>6</sup> The following measurements are given by Benson (1955): 13 males wing 79-84, tail 59-67; 8 females wing 74-77, tail 54-59, while Traylor (1962) notes 4 males wing 82-83 (82.3), tail 62-67 (64.0); 3 females wing 75 (75.0), tail 56-60 (57.3). <sup>7</sup> For 4 males Benson (1955) indicates: wing 81-83, tail 65-69. Traylor (1962) gives the following lengths: 8 males wing 82-84 (83.3), tail 65-71 (68.9); 18 females wing 74-81 (77.5), tail 58-66 (61.3).

m=minimum, M=maximum, s=standard deviation, T/W=tail/wing ratio, T<sub>a</sub>/W=cursus/wing ratio, TC/W=total culmen/wing ratio.

5. The ratios tarsus/wing and total culmen/wing are higher for the *insulana* group, with some exceptions.

*C. bocagei* is a heavier bird. Verheyen (1953) indicates for 9 adult males 20-25 g, with a mean of 22 g, and 20-25 (21) g for 9 adult females. On the other hand, Eisentraut (1973) gives 17-19 (18.1) g for 6 *insulana* males, and 15-18 (16.5) g for 4 females. For 6 specimens of *granti* the labels indicate 16-20 (17.7) g.

#### Description of a new subspecies of *C. bocagei*

It is appropriate here to draw attention to an exceptional population which exists east of the region of Kungwe-Mahari, at altitudes of 1190-1340 m, in patches of evergreen forest or in riverine forest. Previously, this population has been attributed to *C.b. kungwensis* (Britton 1980). In reality, these specimens represent an undescribed subspecies of *C. bocagei* which I propose to name

#### *Cossypha bocagei ilyai* subsp. nov.

*Description.* Differs from *C.i. kungwensis* by its greater size (wing, tail), a dark olivaceous brown crown with a faint greyish wash and a gradual change from crown to mantle, which is lighter, more olivaceous; uppertail-coverts brown, less rufous and lighter; tail russet brown, less dark; lower eye-lid rufous brown; throat and chest of a duller rufous brown; flanks and undertail-coverts dark brown with an olivaceous tinge; centre of belly with less white. Compared with the hitherto known subspecies of *C. bocagei*, the head of *ilyai* is not grey; the back and the tail are darker, as are the flanks and undertail-coverts.

*Distribution.* Western Tanzania, in a limited area east of Kungwe-Mahari (6°12'S, 29°50'E).

*Holotype.* Adult male collected along Upper Niamezi (=Nyamanzi) River (5°55'S, 30°55'E), western Tanzania, 25 September 1943, for R. E. Moreau. In the collection of the British Museum (Natural History), Reg. No 1945.34.201.

*Measurements of holotype.* Wing 82, tail 59, tarsus 27, culmen from skull 15.5 mm.

*Material examined.* Known only by 3 specimens, all in the collection of the BMNH. An adult female from the type locality has the following measurements: wing 75, tail 53, tarsus 26.5, culmen from skull 15 mm. The third specimen, also an adult female, was collected c. 50 miles NE of Karema (c. 6°10'S, 30°50'E). Its measurements are: wing 74.5, tail 51, tarsus 26.5, culmen from skull 15 mm.

*Remarks.* The series of 3 specimens is very homogenous and shows constant morphological differences from *kungwensis*; it is possible to recognize *ilyai*, without doubt, especially by its underparts. The measurements of the holotype of *ilyai* are relatively small for the *bocagei* group, but several specimens of the race *hallae* have a wing of 80-82 mm, and 2 have a tail of 58-59 mm. I have examined females of *hallae* with a wing of 72-75 mm. However, the smallest *hallae* females measured have a tail of 54-55 mm, a little longer than the 2 known females of *ilyai*. Traylor (1962) notes that there is a cline of size, the Angola birds being on average larger,

especially in tail length. Nevertheless, the measurements of *ilyai* are nearer to the *bocagei* group than to the *insulana* group.

This new subspecies is dedicated to my brother Ilya for his exceptional contribution to science.

### Discussion

It is not correct, as Moreau & Benson (1956) state, that the Kungwe and Kupe birds have at most a line of black feathers on the inferior eye-lid, and for this reason are intermediate between *insulana* and *bocagei*. The colour differences are strongly pronounced between the 2 groups, with the exception of *ilyai*, which belongs, without doubt nevertheless, to the *bocagei* group, in spite of some resemblance to *kungwensis*. The 2 populations, *C.i. kungwensis* and *C.b. ilyai*, are separated by c. 130 km, and are members of 2 different groups, which can show no interbreeding. The *bocagei* group, except *ilyai*, has normally a grey head in adults, in strong contrast with the olivaceous mantle. Yet, an adult female of *chapini* collected at Abercorn (BM 1955.41.34), about 300 km south of the range of the *ilyai* population, has a grey olivaceous head only gradually passing to the light olive mantle. This specimen seems intermediate with *ilyai* judged by the crown and upper-parts. Other specimens from southwestern Tanzania (Stjernstedt & Moyer 1982) have not been examined by me and it is not possible to state if the coloration of the bird from Abercorn is only individual or corresponds to the population found in northern Zambia and southwestern Tanzania.

Ecologically, the 2 robin-chats have different requirements. The *C. insulana* group is found in the lower stratum of montane forest. *C.i. granti* has been recorded from the undergrowth or near the ground of montane forest, at 600-1000 m, on the southern slopes of Mt. Cameroon and is widely distributed between 600 and 1700 m in the wetter forests of Cameroon (Stuart & Jensen 1986). The race *kungwensis* inhabits montane forest, at 2100-2400 m, *kaboboensis* at 1650-2450 m. *C. bocagei*, on the other hand, is encountered in a more open habitat, in patches of moist evergreen forest, at altitudes from 1600 to 2000 m (D. C. Moyer) and in riparian growth, feeding on the ground.

For all these reasons, it seems best to consider *Cossypha bocagei* and *C. insulana* as allospecies as already suggested by Wolters (1983). To explain the phylogeny of the 2 taxa, it is assumed that the direct ancestor of *C. bocagei* and *C. insulana* originated in the Albertine Rift refugium. During an earlier interglacial, proto-*bocagei* expanded its range to the southwest. After being isolated as a result of a dry period, there followed a progressive differentiation to present *C. bocagei*, the species becoming adapted ecologically to more open country, with a preference for wooded places, in a moist-typed savanna. After the departure of proto-*bocagei*, the appropriate ecological niches around the Albertine Rift were occupied by proto-*insulana*, which is now present on 5 massifs on which isolation has produced subspeciation in several montane forests. More recently, during a humid and warm period, *C. insulana* crossed the tropical forest and reached the Cameroon mountains and Fernando Po, where the isolation

time has not been sufficiently long to produce a differentiation exceeding subspeciation.

It is difficult to explain the presence of the *ilyai* population, which shows some approach to *kungwensis*. It is suggested that the robin-chats of the *bocagei* group spread out over the southern end of Lake Tanganyika and reached finally the region east of Mt. Kungwe, where they became isolated.

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Abbreviations. BMNH: British Museum (Natural History); IRSNB: Institut royal des Sciences naturelles de Belgique; MRAC: Musée royal de l'Afrique centrale.

Address: A. Prigogine, Institut Royal des Sciences Naturelles de Belgique, rue Vautier 29, B-1040 Bruxelles, Belgium.

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## J. T. Last and the type-locality of Benson's Rockthrush *Monticola bensoni*

by N. J. Collar and I. Tattersall

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Benson's Rockthrush *Monticola bensoni* was described by Farkas (1971) from 2 old specimens in the American Museum of Natural History "collected by Zaaat at Ankarefu, Antinosy Cy, S. W. Madagascar". Farkas was unable to trace "Ankarefu" but mapped "Antinosy County" as in the far south of Madagascar (more in the southeast than the southwest, despite the "S.W." of the label); all Farkas's other records of the species were from the rocky, dry regions of the central-south and southwest of the country. Collar & Stuart (1985: 473-475), in treating Benson's Rockthrush as a threatened species (IUCN category "Insufficiently Known"), provided further records from the central-south and southwest of Madagascar; they pointed out that "Antinosy County" was probably a misreading of Antinosy country, and that, according to Deschamps (1960), émigrés of the Antanosy (the correct modern spelling) people of far southeast Madagascar had (in the nineteenth century or earlier) colonised an area of the southwest of the island, north of the Onilahy River at the southernmost end of the Isalo massif. They suggested that the type-material derived from this latter "Antinosy country" and noted that an "Ankarefo" is or was situated at 23°06'S, 46°06'E, some 100 km east of the Isalo massif.

More certain information on the origins of the type-material was impossible until more could be learnt of "Zaaat". In the course of researching the 28 Madagascar species in Collar & Stuart (1985), N.J.C. read widely in the relevant nineteenth as well as twentieth century literature, and examined specimens in 9 western European museums, but never found mention of an explorer or dealer named Zaaat, nor indeed of Antinosy or Antanosy County or country. It seemed possible that "Zaaat" was a misreading of Lantz, who was keeper of the Réunion museum and made a collection of Madagascar birds in the 1860s (see Milon 1951: 153), or (van der) Henst, a member of the Leiden Museum team also operating in Madagascar in the 1860s and honoured in the name *Accipiter henstii* (Schlegel 1873: 62-63). However, G. S. Keith, with whom N.J.C. was in correspondence at the time, kindly